

REMARKS

Claims 1-30 are currently pending in this application with claim 24 being amended and claims 16, 17, 23 and 25-30 being cancelled by this response.

Rejection of Claims 16, 17 and 23-27 under 35 U.S.C. 102(b)

Claims 16, 17 and 23-27 stand rejected under 35 U.S.C. 102(b) as being anticipated by Faroudja. Claims 16, 17, 23 and 25-27 have been cancelled by his response. Claim 24 has been amended to be in independent form including the limitations of original claim 16.

The present invention as claimed in claim 24 discloses a method for processing non-telecined progressive scan video signals. The method includes the steps of adaptively filtering the signal to produce a filtered signal. The filtered signal is then converted to a lower spatial resolution signal and MPEG encoded. The encoded lower spatial resolution signal is then conveyed to an output channel. The adaptive filtering is a function of image signal parameters prior to filtering.

Specifically, claim 24 recites:

“A method for processing non-telecined progressive scan video signals, comprising the steps of:
 adaptively filtering said detected signal to produce a filtered signal;
 converting said filtered signal to a lower spatial resolution to produce a lower spatial resolution signal;
 MPEG encoding said lower spatial resolution signal to produce an encoded signal; and
 conveying said encoded signal to an output channel,
wherein the adaptive filtering is a function of image signal parameters prior to filtering.”

Faroudja discloses system for recording or transmitting 24 or 25 fps motion picture film sources and non-film interlaced or progressively scanned video sources as progressively scanned video at a nominal frame rate of 24 or 25 frames per second. However, Faroudja neither discloses nor suggests adaptive filtering which is a function of image signal parameters as in the present claimed invention. As discussed

in the present specification on Page 11, lines 4-15, the processor can be adaptively modified to filter depending upon the parameters used to define the filter adaptation. For example, variance in an image frame can be used to segment the image into regions for different processing. Colorimetry of the image may be used to identify areas of low complexity. Textures may identify regions which may be filtered more than other regions. Cinematic composition may be used to locate important figures or actions in the image which require higher coding efficiency and thus less filtering. Such is neither disclosed nor suggested by Faroudja which only discloses a low pass filtering.

In view of the above remarks it is respectfully submitted that claim 24 is not anticipated by Faroudja. It is thus further respectfully submitted that, in view of the above remarks, the cancellation of claims 16, 17, 23 and 25-27 and the amendments making claim 24 independent, this rejection is satisfied and should be withdrawn.

Rejection of Claims 1-10, 13 and 14 under 35 U.S.C. 103(a)

Claims 1-10, 13 and 14 stand rejected under 35 U.S.C. 103(a) as being unpatentable over Faroudja in view of LeGall et al.

LeGall et al. disclose conversion of a high resolution interlaced format to a lower resolution progressive format as recited by the Examiner in his rejection. Neither LeGall et al. nor Faroudja (as admitted by the Examiner) disclose or suggest reconvert the filtered signal to the original format of the first signal to produce a reconverted signal as in the present claimed invention. Furthermore, neither LeGall et al. nor Faroudja disclose the specific sequence claimed in the present claimed invention. The specific sequence of the present claimed invention converts a received video signal to a different format and filters the converted signal. The filtered signal is then reconverted back to the original format. The reconverted signal is then converted to a lower resolution signal and conveyed to an output signal. The sequence in which the steps of the present claimed invention are performed is critical to the operation and efficiency of the present claimed invention. This sequence is neither disclosed nor suggested by either LeGall et al. or Faroudja when taken alone or in combination.

As both LeGall et al. and Faroudja fail to disclose or suggest the sequence of the present claimed invention including reversion of the filtered signal to its original signal after filtering and prior to converting the signal to a lower resolution

and encoding it is respectfully submitted that LeGall et al., when taken alone or in combination with Faroudja do not make the present invention unpatentable. In view of the above remarks it is respectfully submitted that Claims 1-10, 13 and 14 of the present claimed invention are not obvious.

Rejection of Claims 11, 12 and 15 under 35 U.S.C. 103(a)

Claims 11, 12 and 15 stand rejected under 35 U.S.C. 103(a) as being unpatentable over Faroudja in view of LeGall et al. and Scorse et al.

Scorse et al. disclose a system which permits the operator of a video image system to selectively transmit portions of the video image at an operator selected resolution" (see "Abstract" of Scorse et al.). The only thing even resembling a lines per frame to pixels per line relationship disclosed by Scorse et al. (see col. 3, lines 39-41) is "the video input signal is often stored in an array which has 768 pixels horizontally and 512 pixels vertically". Scorse et al. go on to say "the exact number of pixels into which a visual image is divided is not significant to the present invention". This is unlike the present invention as claimed in claims 11, 12 and 15 wherein the number of pixels per line (1280) is significant to the present invention.

The Examiner uses the disclosure in Scorse et al. to claim that the claimed 1280 pixels per line is an arbitrary number and could be less or more. The Examiner further states "the claimed 1280 pixels per line...is not supported by the specification by identifying the "Criticality" of the "1280" pixels per line".

The Examiner went on at that point of the Office Action indicating he disregarded the specific parameters disclosed and claimed by Applicant and, instead, considered those values to be "arbitrary".

In at least five different places in the specification, the description of the invention specifically refers to "1280" as the number of pixels per line (in combination with a specified number of lines per frame) according to this invention (see page 4, page 9 and page 12). The statement that this parameter (1280 pixels per line) is "not supported" is not understood. The disclosure repeatedly specifies this number and the specification and claims are clearly consistent with each other. It is respectfully submitted that there is no basis, in statutes or regulations or case law, that the word "critical" must appear in this application. This position appears to be fundamental to the rejection of the claims and it is respectfully submitted that this

“requirement “ should be disavowed and withdrawn and that claims 11, 12 and 15 should be allowed.

Furthermore, it is respectfully submitted that Scorse et al. add nothing to the combination of Faroudja and LeGall et al. which would make the present invention as claimed in independent claim 1, from which claims 11, 12 and 15 depend, unpatentable. Scorse et al. neither disclose nor suggest the sequence of the present claimed invention including reconversion of the filtered signal to its original signal after filtering and prior to converting the signal to a lower resolution and encoding as in the present claimed invention. It is thus respectfully submitted that in view of the above remarks and the remarks regarding the rejection of claims 1-10, 13 and 14 that claims 11, 12 and 15 are not unpatentable in view of Scorse et al. when taken alone or in combination with Faroudja and/or LeGall et al. and thus this rejection is satisfied and should be withdrawn.

Rejection of Claim 18 under 35 U.S.C. 103(a)

Claim 18 stands rejected under 35 U.S.C. 103(a) as being unpatentable over Faroudja in view of Scorse et al.

Applicants disclose and claim encoded information or a signal representing a picture format defined by 1080 lines by 1280 pixel/line (i.e., "1080 x 1280"). None of the art of record, including Scorse et al. and Faroudja, suggest such a format as admitted by the Examiner. The Examiner once again uses the disclosure of Scorse et al. to claim that the claiming of 1280 pixels per line is an arbitrary number and can be less or more pixels. As discussed above, applicants disagree with this determination. In at least five different places in the specification, the description of the invention specifically refers to "1280" as the number of pixels per line (in combination with a specified number of lines per frame) according to this invention (see page 4, page 9 and page 12). The statement that this parameter (1280 pixels per line) is "not supported" is not understood. The disclosure repeatedly specifies this number and the specification and claims are clearly consistent with each other. It is respectfully submitted that there is no basis, in statutes or regulations or case law, that the word "critical" must appear in this application. This position appears to be fundamental to the rejection of the claims and it is respectfully submitted that this "requirement " should be disavowed and withdrawn and that claims 11, 12 and 15 should be allowed.

Therefore, it is respectfully submitted that Scorse et al. add nothing in

combination with Faroudja which would make the present invention unpatentable. In view of the above remarks it is respectfully submitted that Claim 18 of the present claimed invention is not obvious and that this rejection should be withdrawn.

Rejection of Claims 19-22 and 28-30 under 35 U.S.C. 103(a)

Claims 19-22 and 28-30 stand rejected under 35 U.S.C. 103(a) as being unpatentable over Lim in view of Scorse et al. Claims 28-30 have been cancelled by this response in view of the rejection under 35 USC 101 as claiming the same invention as that of claim 1 of co-pending application no. 09/602,925 discussed hereinafter.

The Examiner relies principally upon Lim for the rejection of Claims 19-22. This rejection is based upon an impermissible reconstruction of the Lim reference in light of (based upon) what is taught by the present application.

Lim should only be interpreted in view of what IT teaches and what is generally known in the art. Throughout this rejection, the Examiner acknowledges "Lim does not specifically disclose a 1080 x 1280 picture format". Since this format is not otherwise disclosed in any of the other cited references, it must be acknowledged that a 1080 x 1280 picture format is NOVEL.

The Examiner takes the position, however, that because Lim discloses some formats with 1080 lines and various pixels per line and elsewhere, Lim discloses 1280 pixels per line in combination with various other numbers of lines, the "selection of a desired number of pixels" is "arbitrary" and "simply a design choice". The Examiner concludes, (see rejection of claim 1) that Applicant's claimed combination of "1080 x 1280" "would reduce transmission time/bandwidth of the transmitted signal" and is thereby "obvious".

That result is neither the motivation nor the desired effect sought for the claimed invention. The present invention is concerned with encoded information or a signal representing a picture format defined by 1080 image lines and 1280 pixels per image line (i.e. "1080 x 1280"). The unique, claimed 1080 x 1280 picture format reflects a recognition by Applicants that this format advantageously results in a "hybrid" image resolution which high definition (HD) television receivers can easily decode and, with a minor software change, display (specification, page 4, lines 13-16; page 9, line 13-page 10, line 5 and elsewhere in the description).

Contrary to the Examiner's position, LIM IS ABSOLUTELY CLEAR AND CERTAIN regarding permitted combinations of the number of active lines per frame AND pixels per line. In ALL of the fourteen actual examples (Table I and Table II) presented by Lim, the relationship between active lines per field and pixels per line ("the formats" – column 5, line 9) is based upon the "aspect ratio" of the image to be displayed and, more specifically, on "a 16:9 aspect ratio, which is currently preferred for an HDTV system" (column 5, lines 10-11). Thus, if one follows what Lim teaches, the aspect ratio must be taken into account when choosing the pixels per line and lines per field. These are not independent according to Lim.

It is noted that Lim states "Other aspect ratios could be used" (column 5, line 11) but Lim does not describe any other aspect ratios and neither discloses nor suggests any combination of active lines per frame and pixels per line which is not based on an image aspect ratio.

Simply stated, based on what Lim itself teaches, it would be inappropriate to combine 1080 lines with 1280 pixels per line since that would result in an apparently anomalous aspect ratio of 32:27 (remember, Lim only teaches that these parameters are related to each other according to aspect ratio).

Thus, it is more accurate to state that Lim, the principle reference, taken for what IT says, teaches AWAY from the claimed combination of parameters.

The secondary reference, Scorse et al., is discussed above and is even less appropriate art with respect to the present claimed invention than is Lim since Scorse et al. has no connection to the present claimed invention, to the disclosure of Lim or to any way or reason for modifying Lim to achieve the results of the claimed invention. As discussed above, Scorse et al. disclose a "system (which) permits the operator of a video image system to selectively transmit portions of the video image at an operator selected resolution" (see "Abstract" of Scorse et al.). The only thing even resembling a lines per frame to pixels per line relationship disclosed by Scorse et al. (see col. 3, lines 39-41) is "the video input signal is often stored in an array which has 768 pixels horizontally and 512 pixels vertically". Scorse et al. go on to say "the exact number of pixels into which a visual image is divided is not significant to the present invention". The Examiner has not made any connection between what Scorse et al. and Lim disclose in order to bring them together. It is not surprising that Scorse et al. fail to disclose anything relevant to the present claimed invention or to what Lim

discloses. It is respectfully submitted that, like Lim, Scorse et al. should be considered only in the light of what IT (or Lim) discloses, not what is found in the present application. In that regard, it is submitted that Scorse is not combinable with Lim and is not an appropriate reference against the claims of the present application.

Therefore, it is respectfully submitted that Scorse et al. add nothing in combination with Lim which would make the present invention unpatentable. In view of the above remarks it is respectfully submitted that Claims 19-22 of the present claimed invention is not obvious and that this rejection is satisfied and should be withdrawn.

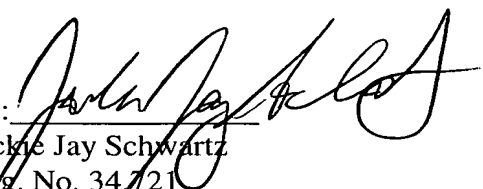
Rejection of Claims 28 and 29 under 35 U.S.C. 101

Claims 28 and 29 stand rejected under 35 U.S.C. 101 as claiming the same invention as that of claim 1 of copending application no. 09/602,925. Claims 28-30 of the present application have been cancelled by this response. In view of the cancellation of these claims it is respectfully submitted that this rejection is now moot and should be withdrawn.

In view of the above-remarks it is respectfully submitted that claims 1-30 are now allowable.

No fee is believed due. However, if a fee is due, please charge the fee to Deposit Account 07-0832.

Respectfully submitted
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Version with Markings to Show Changes MadeIN THE CLAIMS

Please cancel claims 16, 17, 23 and 25-30 without prejudice or disclaimer.

Please replace claim 24 with the following new claim 24.

24. (amended) A method [according to claim 16] for processing a non-telecined progressive scan video signal, comprising the steps of:
adaptively filtering a detected signal to produce a filtered signal;
converting said filtered signal to a lower spatial resolution to produce a lower spatial resolution signal;
MPEG encoding said lower spatial resolution signal to produce an encoded signal; and
conveying said encoded signal to an output channel, wherein said adaptive filtering is a function of image signal parameters prior to filtering.

CERTIFICATE OF MAILING

I hereby certify that this amendment is being deposited with the United States Postal Service as First Class Mail, postage prepaid, in an envelope addressed to the Assistant Commissioner for Patents Washington, D.C. 20231 on:

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